

724



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D212-664-101**  
**Job Sheet 182867**



Part No: D212-664-101

Job Qty: 1 ea

Part Name: Fwd Crosstube - High



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/5/18

Job Tracking No:

Due Date: 9/26/18

Created By: Jesse White

Type: Stock

Description:

**Note:** D212-664-141 REV E/ IIN-D212-664 REV.J IPP Rev:E 04.02.16 Reformat KJ/DS IPP Rev:F 06-03-29 Remove  
Comments on Pick List JLM IPP Rev:G 07-04-30 As per Rev C JLM IPP Rev:H 11.04.26 inspection strip ecn 11-  
549 EC verf by:DD IPP REV:I 14.05.27 AS PER ECN 14-570 DD VERF:JLM

Ship Via:

### Bill of Materials



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 813 632-5200  
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www.dartaerospace.com

Container No: S110064



Part: D212-664-101

Job No: 182867

Serial No/Batch: S110064

Revision: E/J

Inspector:

Exp Date:

Instructions: TC STC SH01-9 Issue 3, FAA STC SR01298N

## Job Routing

| Op No | Operation           | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off      |
|-------|---------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|---------------|
|       |                     |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |               |
| 90    | Start up Operation  | 1 Ea  |            | 9/26/18  | 0.00      | 0.00    | Start Up Stores/Pkg-1 |           | GP 2018-09-14 |
| 110   | Packaging           | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | Packaging1-3          |           | GP 2018-09-14 |
| 120   | CNC Bend Crosstubes | 1 pcs |            | 9/26/18  | 3.11      | 2.22    | CNC Bend Crosstube    |           | GP 2018-09-14 |
| 130   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC15                  |           | 38            |
| 140   | Crosstubes          | 1 pcs |            | 9/26/18  | 0.00      | 0.67    | Crosstubes-1          |           | GP 2018-09-14 |
| 150   | HandFXtube          | 1 pcs |            | 9/26/18  | 0.00      | 0.98    | HandFinish5           |           | GP 2018-09-14 |
| 160   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC7-1                 |           | 38 DAS        |
| 165   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC5                   |           | 9-89 38       |
| 170   | Outsource           | 1 pcs |            | 9/26/18  |           |         | SKY002-VC             |           | OCT 01 2018   |
| 180   | Packaging           | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | Packaging2            |           | OCT 02 2018   |
| 190   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC5                   |           | 38            |
| 200   | SprayPaint          | 1 pcs |            | 9/26/18  | 0.00      | 0.25    | Spray Paint           |           | SEP 27 2018   |
| 210   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC14                  |           | 38            |
| 220   | Crosstubes          | 1 pcs |            | 9/26/18  | 0.00      | 1.69    | Crosstubes-1          |           | OCT 03 2018   |
| 230   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC5                   |           | 38            |
| 240   | Packaging           | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | Packaging1-3          | DAS       | OCT 11 2018   |
| 250   | QC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | QC4                   | 6938      | OCT 12 2018   |
| 260   | Packaging           | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | Packaging3-1          | 9-89 B    | OCT 12 2018   |
| 265   | DC                  | 1 pcs |            | 9/26/18  | 0.00      | 0.00    | DC                    |           | SEP 18 2018   |
| 270   | QC21-FG             | 1 Ea  |            | 9/26/18  | 0.00      | 0.00    | QC21                  |           | SEP 18 2018   |

Part Op 120 - Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio D212-664-101

Descriptions: 140 - "1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549, using drill table DT8577, set-up towers in hole #7 as per QSI 10 2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141 4-\*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141"

150 - \*\*\*IMMEDIATELY AFTER GRINDING\*\*\*

170 - \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

180 - Ensure copy of NDT results attached to work order.

190 - \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Inspect for damage & ensure results are as per Dwg D212-664-141

200 - \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* 1-Prime inside & outside crosstube as per QSI 005 4.2 BATCH: 138827 2- After painting remove masking and apply matte clear coat per QSI005 4.2 3- MASK UNDERSIDE OF CROSSTUBE AS SHOWN ON DWG BEFORE PAINTING 4 -Paint Outside of Tube as per Dart QSI 005 4.2 clear 138832 Paint 138949

210 - Then, Wrap in plastic bag to protect from scratches

220 - \*\*\*\*\*LAY DOWN CROSSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. \*\*\*\*\* 1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2- Install supports with Proseal 890 per D212-664-141 and QSI 015 A/R Proseal 890 Batch: 5096394 EXP: 3/19 PROSEAL CURE TIME 72 HOURS: Start: 18-10-3 Finish: 18-10-6 3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) using DT9565 as per Dwg D212-664-141. \*\*\*Torque all clamps to 80-100 IN-LBS.\*\*\*

230 - \*\*\*RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.\*\*\*

250 - \*\*\*VERIFY BY \_\_\_\_\_ BATCH # TO MATCH W/O \_\_\_\_\_

260 - Identify and pack for shipping as per PPP D212-664-101 Location : FG094

265 - Photocopy bluefile and create labels as per PPP D212-664-101 CHG006 ✓



**Job BOM**

| Part / Item     | Component Name                         | Quantity      | Operation             | Container |
|-----------------|----------------------------------------|---------------|-----------------------|-----------|
| D212-664-101TRN | Crosstube Turning Detail               | 1 Ea (1 ea)   | 90-Start up Operation |           |
| D2893-1         | Support                                | 2 Ea (2 ea)   | 220-Crosstubes        |           |
| D3595-063-450   | Rubber Cushion 0.63" Wide X 4.50" Long | 4 Ea (4 ea)   | 220-Crosstubes        |           |
| MS21920-25      | Clamp                                  | 4 Ea (4 ea)   | 220-Crosstubes        |           |
| AN6-35A         | Bolt                                   | 4 Ea (4 ea)   | 240-Packaging         | 5114898   |
| AN6-36A         | Bolt                                   | 4 Ea (4 ea)   | 240-Packaging         | 5098035   |
| D3428-1         | Placard                                | 1 Ea (1 ea)   | 240-Packaging         | 5046308   |
| MS21042L6       | Nut                                    | 6 Ea (6 ea)   | 240-Packaging         | 5085542   |
| NAS1149D0663J   | Washer                                 | 18 Ea (18 ea) | 240-Packaging         | 5043782   |

**Job Allocations**

| Operation             | Component Part        | Required | Inventory | Allocated |
|-----------------------|-----------------------|----------|-----------|-----------|
| 90-Start up Operation | D212-664-101TRN       | 1        | 5         | 0         |
| 220-Crosstubes        | D2893-1 5109395       | ②        | 9         | 0         |
|                       | D3595-063-450 5078312 | ④        | 90        | 0         |
|                       | MS21920-25 5107731    | ④        | 192       | 0         |
| 240-Packaging         | AN6-35A               | 4        | 79        | 0         |
|                       | AN6-36A               | 4        | 117       | 0         |
|                       | D3428-1               | 1        | 28        | 0         |
|                       | MS21042L6             | 6        | 466       | 0         |
|                       | NAS1149D0663J         | 18       | 1,344     | 0         |

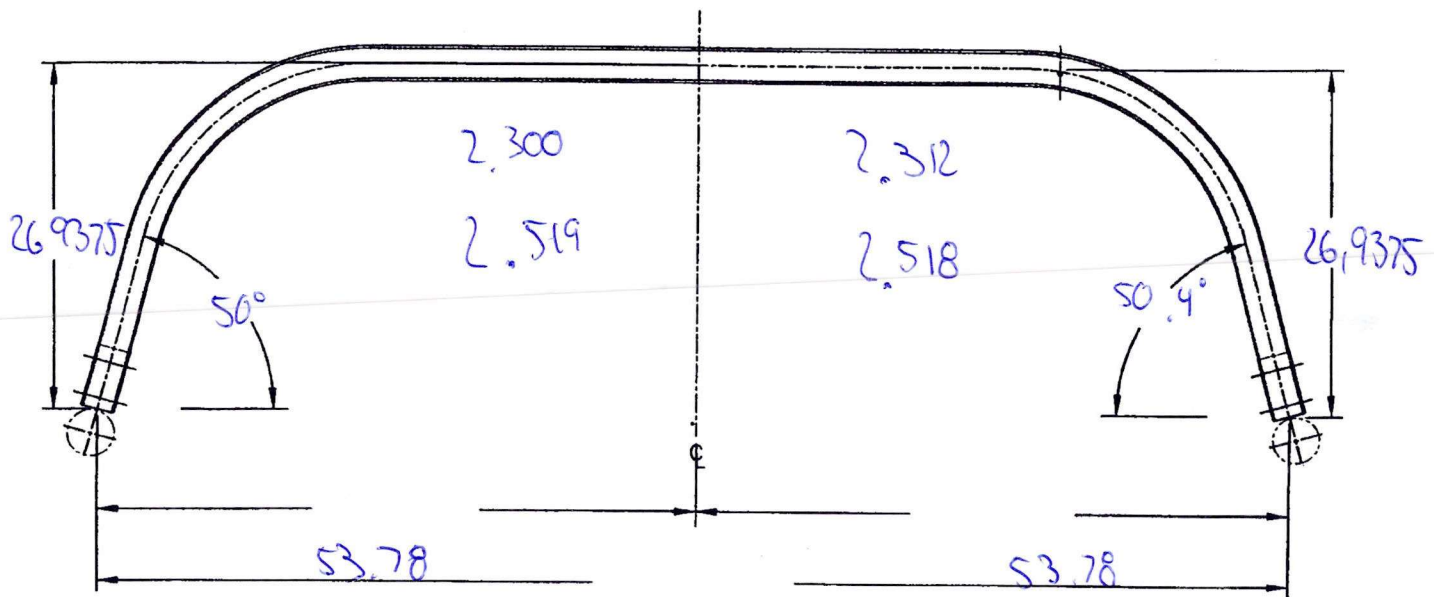
**Part Specifications**

Specifications could not be found.



|                                                      |  |                     |                     |
|------------------------------------------------------|--|---------------------|---------------------|
| <b>DART AEROSPACE LTD</b>                            |  | <b>Work Order:</b>  |                     |
| <b>Description:</b> Crosstube High Fwd (205/212/412) |  | <b>Part Number:</b> | <b>D212-664-101</b> |
| <b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> E    |  |                     | <b>Page 1 of 1</b>  |

| Required Dimension | Min    | Max   |
|--------------------|--------|-------|
| Height             | 26.67  | 27.17 |
| 1/2 Span           | 53.59  | 53.85 |
| Angle              | 49     | 52    |
| Total Span         | 107.18 | 107.7 |
| Bending Passes     | 3      | --    |
| Crushing           | --     | 7.2%  |



|                | Side A | Side B |
|----------------|--------|--------|
| Bending Passes | 6      | 4      |
| Crushing       | 4.5    | 4.3    |
| Comments       |        |        |
|                |        |        |
|                |        |        |
|                |        |        |
|                |        |        |

|                 |          |
|-----------------|----------|
| QC15 Inspection | JP       |
| Date            | 18-09-13 |

| Rev | Date     | Change                             | Revised by | Approved |
|-----|----------|------------------------------------|------------|----------|
| A   | 07.02.06 | New Issue                          | KJ/JM      |          |
| B   | 08.04.21 | Dwg Rev updated                    | KJ/JM      |          |
| C   | 10.04.01 | Dwg Rev updated                    | KJ         |          |
| D   | 12.04.16 | Added bending, crushing dimensions | KJ         |          |
| E   | 14.07.28 | Revised max crushing %             | KJ         |          |
| F   | 16.01.15 | Revised Height min/max dimensions  | KJ         | JP       |



| Item | Qty<br>-141 | Qty<br>-141B | Qty<br>-141F | Part Number     | Description                                             |
|------|-------------|--------------|--------------|-----------------|---------------------------------------------------------|
| 1    | X           |              |              | D212-664-141    | CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)               |
| 2    |             | X            |              | D212-664-141B   | CROSSTUBE ASSEMBLY (214 HIGH FWD)                       |
| 3    |             |              | X            | D212-664-141F   | CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)<br>(ANODIZED) |
| 4    | 1           | 1            | 1            | D6005-128       | CROSSTUBE                                               |
| 5    | 2           |              | 2            | D2893-1         | SUPPORT                                                 |
| 6    | 4           | 4            | 4            | D3595-063-450   | RUBBER CUSHION                                          |
| 7    |             | 2            |              | D5017-1         | SUPPORT                                                 |
| 8    | 4           | 4            | 4            | MS21920-25      | CLAMP (OR MS21920-26)                                   |
| 9    | A/R         | A/R          | A/R          | PROSEAL 890 B-2 | SEALANT, AMS-S-8802 CLASS B-2                           |

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH = 126.514±0.020
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)  
d) PAINT OUTSIDE PER DART QSI 005 4.2  
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT

- FINISH -141F: a) ANODIZE PER MIL-A-8625, TYPE II, CLASS 1.  
b) ALODINE (DO NOT ETCH) PER QSI 005 4.1.2  
c) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
d) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)  
e) PAINT OUTSIDE PER DART QSI 005 4.2  
f) REMOVE MASKING AND APPLY MATTE CLEAR COAT

\*NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO CONTAMINATE OR DAMAGE FINISHED SURFACES.

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141/-141B/-141F = 33.6 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

#### MACHINING

- 10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

#### BENDING

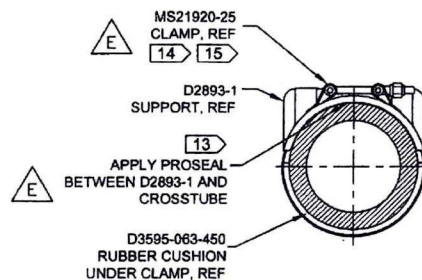
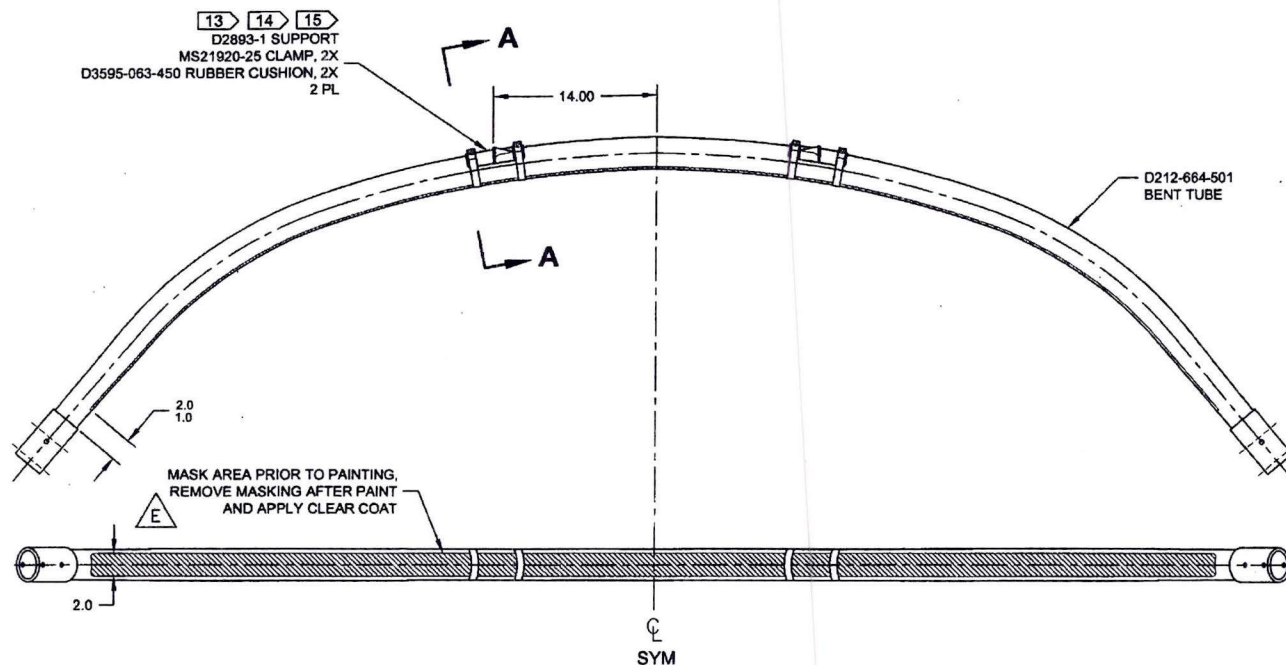
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

#### ASSEMBLY

- 13) TO INSTALL D2893-1 / D5017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

RELEASED  
2014-05-26  
MD

|            |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                          |              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| E          | ADD -141F. D5017-1 WAS D2893-1 (-141B). PROSEAL WAS MAGNOBOND, NOTE 2: ADD INSPECTION WINDOW, NOTE 11: ALLOW 7.2% CRUSH, NOTE 15: ADD 72HR CURE AND RETORQUE FOR PROSEAL. ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (B7-2, B7-3). BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-3), INCORP. DEO D-1/-2/-3 | CP                                                                                                                                                                                                                                                                       | 14.04.01     |
| D          | REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-045 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4                 | RF                                                                                                                                                                                                                                                                       | 09.09.30     |
| C          | REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS                                                                                                                                                                                                                                  | PH                                                                                                                                                                                                                                                                       | 07.03.08     |
| B          | ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES                                                                                                                                                                                                                                                        | PH                                                                                                                                                                                                                                                                       | 05.02.04     |
| A          | NEW ISSUE                                                                                                                                                                                                                                                                                                | CP                                                                                                                                                                                                                                                                       | 00.12.12     |
| REV.       | DESCRIPTION                                                                                                                                                                                                                                                                                              | BY                                                                                                                                                                                                                                                                       | DATE         |
| DESIGN     | Q                                                                                                                                                                                                                                                                                                        | DART AEROSPACE LTD                                                                                                                                                                                                                                                       |              |
| DRAWN      | Q                                                                                                                                                                                                                                                                                                        | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                              |              |
| CHECKED    | DW                                                                                                                                                                                                                                                                                                       | DRAWING NO.                                                                                                                                                                                                                                                              | REV. E       |
| MFG. APPR. | JA                                                                                                                                                                                                                                                                                                       | D212-664-141                                                                                                                                                                                                                                                             | SHEET 1 OF 5 |
| APPROVED   | JA                                                                                                                                                                                                                                                                                                       | TITLE                                                                                                                                                                                                                                                                    | SCALE        |
| DE APPR.   | JA                                                                                                                                                                                                                                                                                                       | XTUBE ASS'Y (205/212/412 HI FWD)                                                                                                                                                                                                                                         | NTS          |
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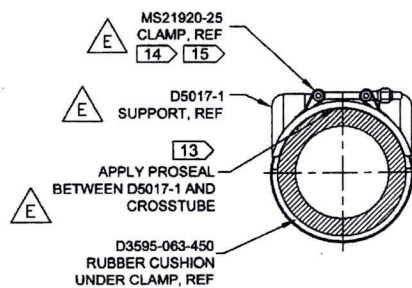
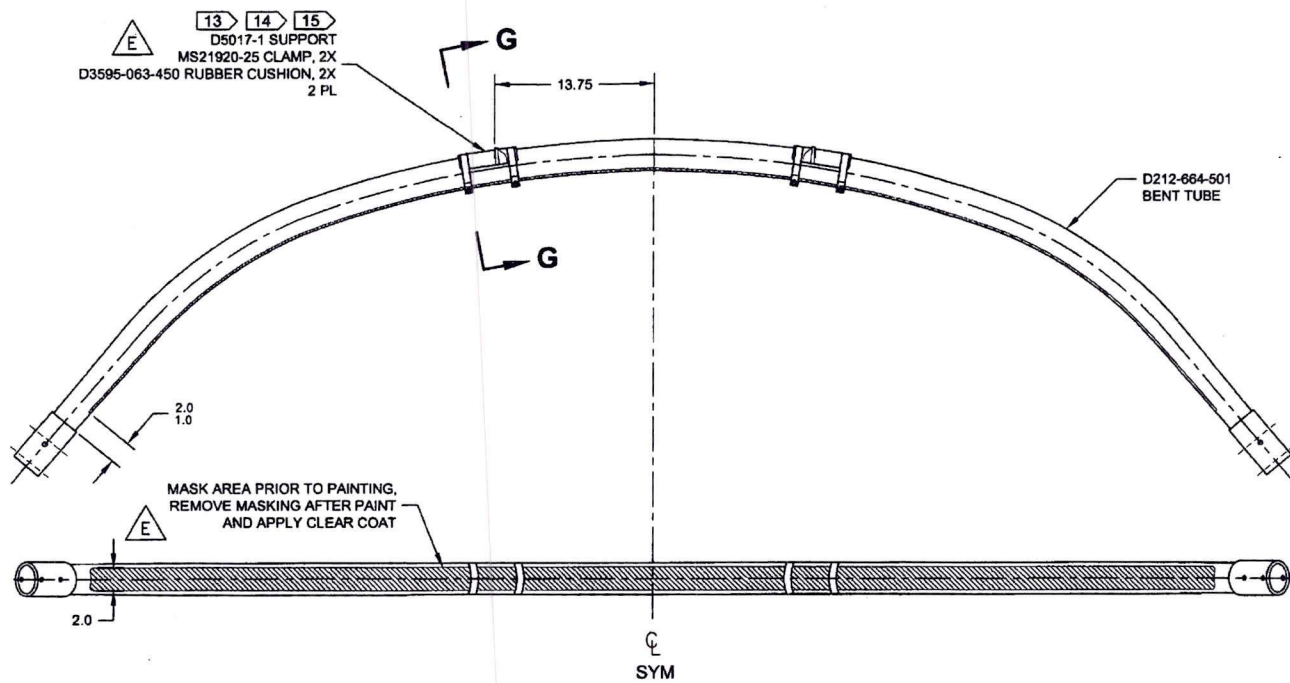


**SECTION A-A**  
SCALE 4X

**D212-664-141/-141F**  
**ASSEMBLY DETAIL**

**RELEASED**  
2014-05-26  
AND

|                                                                                                                                                                                                                                |           |                                        |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                         | <i>Q</i>  | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                          | <i>Q</i>  | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                        | <i>DL</i> | DRAWING NO.                            | REV. E       |
| MFG. APPR.                                                                                                                                                                                                                     | <i>DL</i> | D212-664-141                           | SHEET 2 OF 5 |
| APPROVED                                                                                                                                                                                                                       | <i>DL</i> | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                       | <i>DL</i> | XTUBE ASS'Y (205/212/412 HI FWD)       | NTS          |
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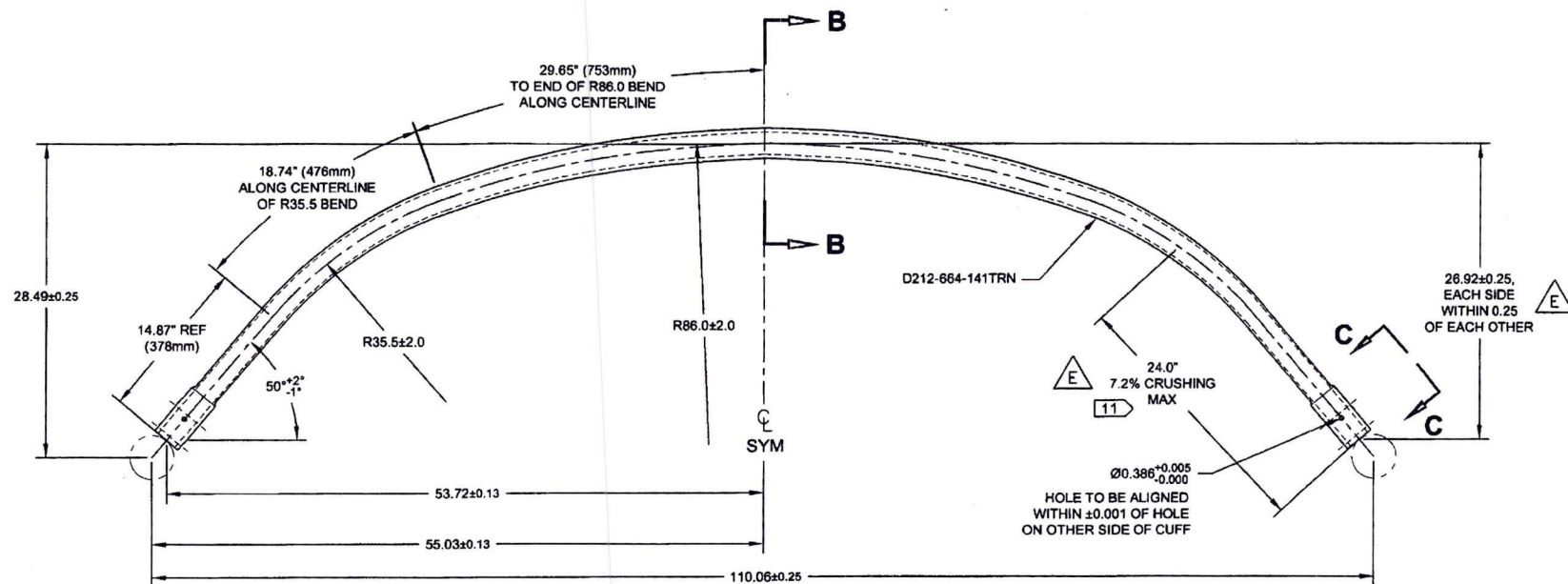
**SECTION G-G**  
SCALE 4X

**D212-664-141B**  
**ASSEMBLY DETAIL**

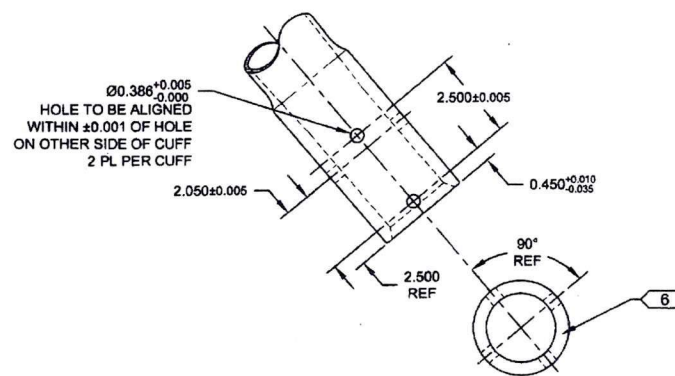
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2014-05-26

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                         |  | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                          |                                                                                       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                                        |  | DRAWING NO.                            | REV. E       |
| MFG. APPR.                                                                                                                                                                                                                     |  | D212-664-141                           | SHEET 3 OF 5 |
| APPROVED                                                                                                                                                                                                                       |  | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                                       |  | XTUBE ASS'Y (205/212/412 HI FWD)       | NTS          |
| DATE                                                                                                                                                                                                                           | 14.04.01                                                                              | COPYRIGHT © 2006 BY DART AEROSPACE LTD |              |
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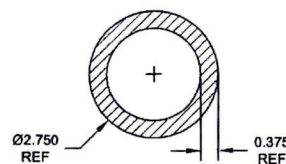




**D212-664-501**  
**BENDING AND DRILLING DETAIL** 11



**VIEW C-C: CUFF DETAIL**  
**SCALE 3X**



**SECTION B-B**  
**SCALE 4X**

**RELEASED**  
2014-05-26

|                                                                                                                                                                                                                      |                                                                                       |                                        |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                               |  | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN                                                                                                                                                                                                                |  | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED                                                                                                                                                                                                              |  | DRAWING NO.                            | REV. E       |
| MFG. APPR.                                                                                                                                                                                                           |  | D212-664-141                           | SHEET 4 OF 5 |
| APPROVED                                                                                                                                                                                                             |  | TITLE                                  | SCALE        |
| DE APPR.                                                                                                                                                                                                             |  | XTUBE ASS'Y (205/212/412 HI FWD)       | NTS          |
| DATE                                                                                                                                                                                                                 | 14.04.01                                                                              | COPYRIGHT © 2006 BY DART AEROSPACE LTD |              |
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Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041148**

**Supplier:** SKY002-VC  
Skyservice  
6120 Midfield Road  
Mississauga  
ON  
L5P 1B1 Canada  
Phone: 905-678-5636  
Fax: 905-678-5841

**PO No:** PO041148  
**PO Date:** 9/26/18  
**Due Date:** 9/28/18  
**Purchase Order**  
**Revision:**  
**Revision Date:**  
**Ship-To Contact:** Tsimiklis, ChrisoulaPhone:

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground  
**Pymt Terms:** Net 30  
**Freight Terms:**  
**Special Comments:**

## **Items**

| Line Item         | Job    | Part         | Description                                                                                                                                                                                                                                                                                                                                                                                                                         | Status | Account | Due Date | Order Quantity | Received Quantity | Balance  | Unit Price (CAD) | Extended Price  |
|-------------------|--------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------|----------------|-------------------|----------|------------------|-----------------|
| 1                 | 180863 | D407-667-105 | Fwd Crosstube - High 407<br>: TC STC SH01-5 Issue 3,<br>FAA STC SR01304NY<br>05/12/15, JCAB JAPAN STC-<br>32-OSA 02/02/28, EASA STC<br>EASA.IM.R.S.01179 06/07/03,<br>BRAZIL 2009S08-16 09/08/25,<br>BRAZIL 2009S08-17 09/08/25<br>*** WEAR LATEX GLOVES<br>WHEN HANDLING<br>CROSSTUBE*** OUTSIDE<br>SERVICE -CROSSTUBES<br>Liquid Penetrant Inspection as<br>per QSI 038 Or Level 2 Attach<br>copy of NDT results to work<br>order | Firmed | -       | 9/28/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$121.00/pcs     | \$121.00        |
|                   | 180861 |              | OCT 0 2 2018                                                                                                                                                                                                                                                                                                                                                                                                                        | Firmed | -       | 9/28/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$121.00/pcs     | \$121.00        |
|                   | 180864 |              | OCT 0 2 2018                                                                                                                                                                                                                                                                                                                                                                                                                        | Firmed | -       | 10/5/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$121.00/pcs     | \$121.00        |
| <b>Sub Total:</b> |        |              |                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |         |          | <b>3</b>       | <b>0</b>          | <b>3</b> |                  | <b>\$363.00</b> |

|   |        |              |                                                                                                                                                                                                                                                                                                                                                               |        |   |         |       |       |       |              |          |
|---|--------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---|---------|-------|-------|-------|--------------|----------|
| 2 | 182865 | D212-664-101 | Fwd Crosstube - High<br>: TC STC SH01-9 Issue 3,<br>FAA STC SR01298NY<br>09/01/08, EASA STC<br>EASA.IM.R.S.01304 07/03/06,<br>DGAC MEXICO STC IA-<br>316/2015 15/06/17<br>*** WEAR LATEX GLOVES<br>WHEN HANDLING<br>CROSSTUBE*** Liquid<br>Penetrant Inspection as per<br>QSI 038 LPI as per ASTM<br>1417 Level 2 Attach copy of<br>NDT results to work order | Firmed | - | 9/28/18 | 1 pcs | 0 pcs | 1 pcs | \$121.00/pcs | \$121.00 |
|   | 182864 |              | OCT 0 2 2018                                                                                                                                                                                                                                                                                                                                                  | Firmed | - | 9/28/18 | 1 pcs | 0 pcs | 1 pcs | \$121.00/pcs | \$121.00 |
|   | 182867 |              | OCT 0 2 2018                                                                                                                                                                                                                                                                                                                                                  | Firmed | - | 9/28/18 | 1 pcs | 0 pcs | 1 pcs | \$121.00/pcs | \$121.00 |





Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO041148

| Items        |        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |         |          |                |                   |         |                  |                |
|--------------|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------|----------------|-------------------|---------|------------------|----------------|
| Line Item    | Job    | Part          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Status | Account | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |
|              | 182866 |               | <i>1 X</i> OCT 0 2 2018 <i>[Signature]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Firmed | -       | 10/5/18  | 1 pcs          | 0 pcs             | 1 pcs   | \$121.00/pcs     | \$121.00       |
| Sub Total:   |        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |         |          | 4              | 0                 | 4       |                  | \$484.00       |
| <i>3</i>     | 180148 | D119-796-141  | Fwd Crosstube Installation Without Step (No Hardware)<br>: TC STC SH14-45-Issue 1,<br>FAA STC SR03504NY<br>15/01/28, EASA STC 10052022 Revision 1<br>15/02/13, DGCA INDIA LoA 07-09/2011-AED (Part)<br>15/07/16, BRAZIL STC 2015S07-16 15/07/30, CAAP PHILIPPINES LoA 16/05/11, CHINA VSTC0757 16/07/22, RUSSIA STC CT316-A119 16/08/11, DGAC INDONESIA STC SR025 18/02/19<br>*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue<br>P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order | Firmed | -       | 9/28/18  | 1 pcs          | 0 pcs             | 1 pcs   | \$121.00/pcs     | \$121.00       |
|              |        |               | <i>1 X</i> OCT 0 2 2018 <i>[Signature]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |         |          |                |                   |         |                  |                |
| <i>4</i>     | 182055 | D130-1048-241 | EC130 Aft Crosstube<br>*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***<br><br>Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order                                                                                                                                                                                                                                                                                                                                                                       | Firmed | -       | 9/28/18  | 1 pcs          | 0 pcs             | 1 pcs   | \$121.00/pcs     | \$121.00       |
|              |        |               | <i>1 X</i> OCT 0 2 2018 <i>[Signature]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |         |          |                |                   |         |                  |                |
|              | 182060 |               | <i>1 X</i> OCT 0 2 2018 <i>[Signature]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Firmed | -       | 9/28/18  | 1 pcs          | 0 pcs             | 1 pcs   | \$121.00/pcs     | \$121.00       |
| Sub Total:   |        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |         |          | 2              | 0                 | 2       |                  | \$242.00       |
| Grand Total: |        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |         |          |                |                   |         | \$1,210.00       |                |



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
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Canada

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## PURCHASE ORDER PO041148

### Order Notes

#### Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)

A022 Apical Processing  
A024 process certifications  
A026 certification of material conformance

A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 10/2/18 10:17 AM dart.tsimiklis.chrisoula



# skyservice Work Order Traveler

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

|                   |                               |               |                      |
|-------------------|-------------------------------|---------------|----------------------|
| WO #: MWO37590    | Customer: Dart Aerospace Ltd. | Dept: NDT YUL | Reference: PO41148 ✓ |
| Descr:            | PN:                           | S/N:          | Qty: 1               |
| Make:             | Model:                        | Reg:          | A/C S/N:             |
| TSN:              | CSN:                          | TSO:          |                      |
| Task: UNSCHEDULED |                               |               | Sequence: 1          |

## Work Required:

CARRY OUT NDT INSPECTION (LIQUID PENETRANT) ON 10 CROSSTUBES

ITEM ID: D119-796-141 FWD CROSSTUBE

1 - WORK ORDER ID#: 180148 ✓

ITEM ID: D212-664-101 FWD CROSSTUBE - HIGH

2 - WORK ORDER ID#: 182866 ✓

3 - WORK ORDER ID#: 182865 ✓

4 - WORK ORDER ID#: 182864 ✓

5 - WORK ORDER ID#: 182867 ✓

ITEM ID: D130-1048-241 EC130 AFT CROSSTUBE

6 - WORK ORDER ID#: 182055 ✓

7 - WORK ORDER ID#: 182060 ✓

ITEM ID: D407-667-105 FWD CROSSTUBE - HIGH 407

8 - WORK ORDER ID#: 180861 ✓

9 - WORK ORDER ID#: 180863 ✓

10 - WORK ORDER ID#: 180864 ✓

DAS  
38  
9-89

|                                                                                                |                     |              |                       |
|------------------------------------------------------------------------------------------------|---------------------|--------------|-----------------------|
| <b>Action Taken:</b>                                                                           |                     | <b>Date:</b> | <b>Initial/Stamp:</b> |
| LIQUID PENETRANT INSPECTION CARRIED OUT ON ITEMS LISTED ABOVE (ITEMS 1-10) AS PER ASTM1417M-13 |                     | SEP 26 2018  |                       |
| NO CRACK FOUND                                                                                 |                     |              |                       |
| Pen: ZL-27A MWO5678 DEV: SKD-S2 MPO11715 CLEANER: SKC-S MPO13923                               |                     |              |                       |
| <b>Description</b>                                                                             | <b>Location P/N</b> | <b>Qty</b>   | <b>Batch</b>          |
|                                                                                                |                     |              |                       |
|                                                                                                |                     |              |                       |
|                                                                                                |                     |              |                       |
|                                                                                                |                     |              |                       |
|                                                                                                |                     |              |                       |
|                                                                                                |                     |              |                       |

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

|                   |                      |              |
|-------------------|----------------------|--------------|
| <b>Signature:</b> | <b>ACA/SCA Stamp</b> | <b>Date:</b> |
|                   |                      | SEP 26 2018  |
| <b>Name:</b>      | ANTONINO MARCHETTA   |              |



## Change Record

PAGE 1 OF 1

Part Number: D212-664-101/-101MBDescription: CROSSTUBE INSTALLATION, HIGH FWD[illegible]